

PATENT APPLICATION

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In application of

Docket No: Q78161

Hideo KITAMI, et.al.

Appln. No.: 10/694,727

Group Art Unit: 2661

Confirmation No.: 4052

Examiner: Not Yet Assigned

Filed: October 29, 2003

For: WIRELESS LAN TERMINAL, WIRELESS LAN BASE STATION, WIRELESS COMMUNICATION METHOD, AND ROAMING METHOD

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §§ 1.97 and 1.98

MAIL STOP AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

1. Japanese Patent Application Publication No. 2002-198892, published July 12, 2002 (with English abstract).
2. Japanese Patent Application Publication No. 11-136257, published May 21, 1999 (with English abstract).
3. Japanese Patent Application Publication No. 11-252004, published September 17, 1999 (with English abstract).
4. Japanese Patent Application Publication No. 2003-304253, published October 24, 2003 (with English abstract).
5. Japanese Patent Application Publication No. 9-8808, published January 10, 1997 (with English abstract).
6. Japanese Patent Application Publication No. 2001-237764, published August 31, 2001 (with English abstract).

INFORMATION DISCLOSURE STATEMENT

U.S. Appln. No.: 10/694,727

Atty. Docket No.: Q78161

One copy of each of the listed documents is submitted herewith.

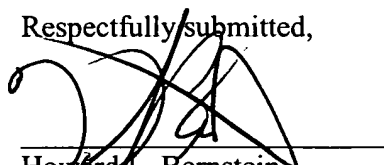
The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant encloses herewith a copy of a corresponding Japanese Office Action, dated February 16, 2006, a copy of a corresponding Japanese Office Action, dated May 16, 2006, and English translations of the pertinent portions thereof which cite such documents and indicate the degree for relevance found by the foreign office.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


Howard L. Bernstein
Registration No. 25,665

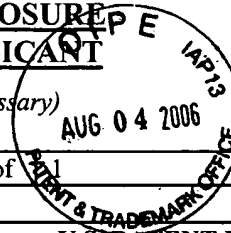
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Date: August 4, 2006

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| Substitute for Form 1449 A & B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | | <i>Complete if Known</i> | | |
| | | | Application Number | 10/694,727 | |
|  | | | Confirmation Number | 4052 | |
| | | | Filing Date | October 29, 2003 | |
| | | | First Named Inventor | Hideo KITAMI | |
| | | | Art Unit | 2661 | |
| | | | Examiner Name | Not Yet Assigned | |
| | | | Attorney Docket Number | Q78161 | |
| Sheet | 1 | of | 1 | | |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|--------------------------|-----------------|--------------------------------------|--------------------------------|---|
| Examiner Initials* | Cite No. ¹ | Document Number | | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document |
| | | Number | Kind Code ² (if known) | | |
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| FOREIGN PATENT DOCUMENTS | | | | | | | |
|--------------------------|--------------------------|------------------------------|---------------------|---|--------------------------------|--|--------------------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | | | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Translation ⁶ |
| | | Country Code ³ | Number ⁴ | Kind Code ⁵ <i>(if known)</i> | | | |
| | | JP | 2002-198892 | A | 07-12-2002 | Hitachi Kokusai Electric Inc | |
| | | JP | 11-136257 | A | 05-21-1999 | Toshiba Tec Corp | |
| | | JP | 11-252004 | A | 09-17-1999 | Nippon Telegr & Teleph Corp <NTT> | |
| | | JP | 2003-304253 | A | 10-24-2003 | Canon Inc | |
| | | JP | 9-8808 | A | 01-10-1997 | Sharp Corp | |
| | | JP | 2001-237764 | A | 08-31-2001 | Nippon Telegr & Teleph Corp <NTT> | |
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| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|-----------------------|--|--------------------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published. | Translation ⁶ |
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| Examiner Signature | | Date Considered | |
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²See Kind Codes of USPTO Patent Documents at www.uspto.gov, MPEP 901.04 or follow the hyperlink from the title of the document to the intranet. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to indicate here if English language Translation is attached.

Q78161-A

Note (for the cited literature, see the List of Cited Literature)

Claims: 1, 3–5, 7, 9–11, 13, 15–17, and 19–22

Cited literature: 1–3

Remarks:

(0018) and Figure 3 of Cited Literature 1 describe how, when wireless LAN terminal *b* and base station A cannot communicate directly, a wireless LAN terminal *a* is made to function as a relay station, i.e. an access point, enabling wireless communication between wireless LAN terminal *b* and base station A.

Here, as described in Cited Literature 2 ((0007) – (0009), Figure 4, Figure 5, and Figure 7), in order to enable communication between a wireless slave station and a PC terminal (10) unable to communicate directly, having an access point serving as a relay station receive wired LAN frames from the PC terminal (10), encapsulate them by appending headers with the BSSID (“MAC address of own terminal”) of the access point as the source MAC address (in the wireless segment) and the MAC address of the wireless slave station as the destination MAC address, and transmit the encapsulated frames to the wireless slave station, is well-known art.

While Cited Literature 2 only describes communication from a PC terminal to a wireless slave station, it is found to be obvious that the reverse communication from the wireless slave station to the PC terminal is also possible using the same frame format as in Figure 5 and Figure 7.

Therefore, it is found that employing a format where the access point performs encapsulation (or decapsulation in the case of communication from a wireless slave station to a PC terminal) as the frame format used for communication in Cited Literature 1, wherein a wireless LAN terminal *a* is made to function as an access point, is something which could be easily conceived of by a person skilled in the art.

The starting and stopping means based on the communication state of Claims 3, 9, and 16 is well-known art, as described in Cited Literature 3 ((0008)).

Furthermore, sharing modules based on the time division operation of Claim 15 is a commonly practiced means.

List of Cited Literature

1. Japanese Unexamined Patent Application Publication 2002-198892
2. Japanese Unexamined Patent Application Publication H11-136257
3. Japanese Unexamined Patent Application Publication H11-252004

Record of Prior Art Literature Search Results

- Fields searched
 - IPC
 - H04L 12/28
 - H04L 12/44–12/46
 - H04B 7/24–7/26
 - H04Q 7/00–7/38
- Prior art literature
 - Japanese Unexamined Patent Application Publication 2003-304253
 - Japanese Unexamined Patent Application Publication H9-8808

This Record of Prior Art Literature Search Results does not constitute a reason for rejection.

Note (for the cited literature, see the List of Cited Literature)

Claims: 13 and 14

Cited literature: 1

Remarks:

Cited Literature 1 ((0018), (0027), (0058) – (0062), (0065) – (0068), Figure 12, and Figure 13) describes transmitting a number-of-hops information request (“hierarchical query”) and switching to the wireless station with the smallest number of hops of the response signal, and is found to make a base station into a superordinate connection destination upon receiving a response signal from that base station. Thus, no remarkable difference can be found between the inventions relating to Claims 13 and 14 of the present application and the invention described in Cited Literature 1.

Claims: 1–12

Cited literature: 1–3

Remarks:

As a method of acquiring information on the number of hops to a base station, Cited Literature 1 describes the method whereby the wireless station constantly transmits announcement messages containing the number of hops of the given wireless station, as described in (0016) and the like, and the method whereby the wireless station requests notification of the number-of-hops information from reachable wireless stations, as described in (0018) and the like.

In the former case, since it is stated that announcement messages are constantly transmitted, generally in an ad-hoc network, it is found that information on the number of hops needs to be constantly updated in consideration of movement and power-down of wireless stations.

Thus, with regard also to the latter method involving requests, performing recursive control whereby a wireless station requested to provide notification itself likewise requests notification of number-of-hops information from reachable wireless stations, including base stations, and the information on the number of hops is constantly updated, is found to be a commonly practiced means for those skilled in the art.

Moreover, to count the number of hops from the wireless station making the request to the base station, in Cited Literature 1 the base station was taken as reference 0, and 1 was successively added thereto, but the question of whether the base station or the wireless station is to be taken as reference is no more than a design matter for those skilled in the art, and the technique of taking the wireless station making the request as reference 0 and successively adding 1, as in the invention of the present application, is also a matter of design for those skilled in the art.

Since encapsulation is well-known art, as described in Cited Literature 2, no difficulty can be found in employing it in Cited Literature 1.

Furthermore, the starting and stopping means of Claims 2, 6, and 11 is well-known art, as described in Cited Literature 3 ((0008)).

Moreover, sharing modules by means of the time division operation of Claim 10 is a commonly practiced means.

List of Cited Literature

1. Japanese Unexamined Patent Application Publication 2001-237764
2. Japanese Unexamined Patent Application Publication H11-136257
3. Japanese Unexamined Patent Application Publication H11-252004